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WATER SUPPLY OUTLOOK FOR OREGON



U. S. DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE

Collaborating with
OREGON DEPARTMENT OF WATER RESOURCES

Data included in this report were obtained by the agencies named above in cooperation with Federal, State and private organizations listed inside the back cover of this report.

AS OF
JAN. 1, 1977

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

*COVER PHOTO: SNOW COURSE MEASUREMENTS BY A SURVEY TEAM IN UTAH'S WASATCH RANGE.
ORC-254-10*

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, West Technical Service Center, Room 510, 511 N.W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	Room 129, 2221 East Northern Lights Blvd., Anchorage, Alaska 99504
Arizona	Room 3008, 6029 Federal Building, Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1220 S.W. Third Ave., Portland, Oregon 97204
Utah	4012 Federal Bldg., 125 South State St., Salt Lake City, Utah 84138
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82602

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia



WATER SUPPLY OUTLOOK FOR OREGON

and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Issued

JANUARY 8, 1977

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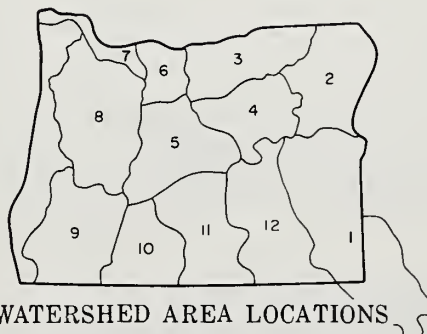
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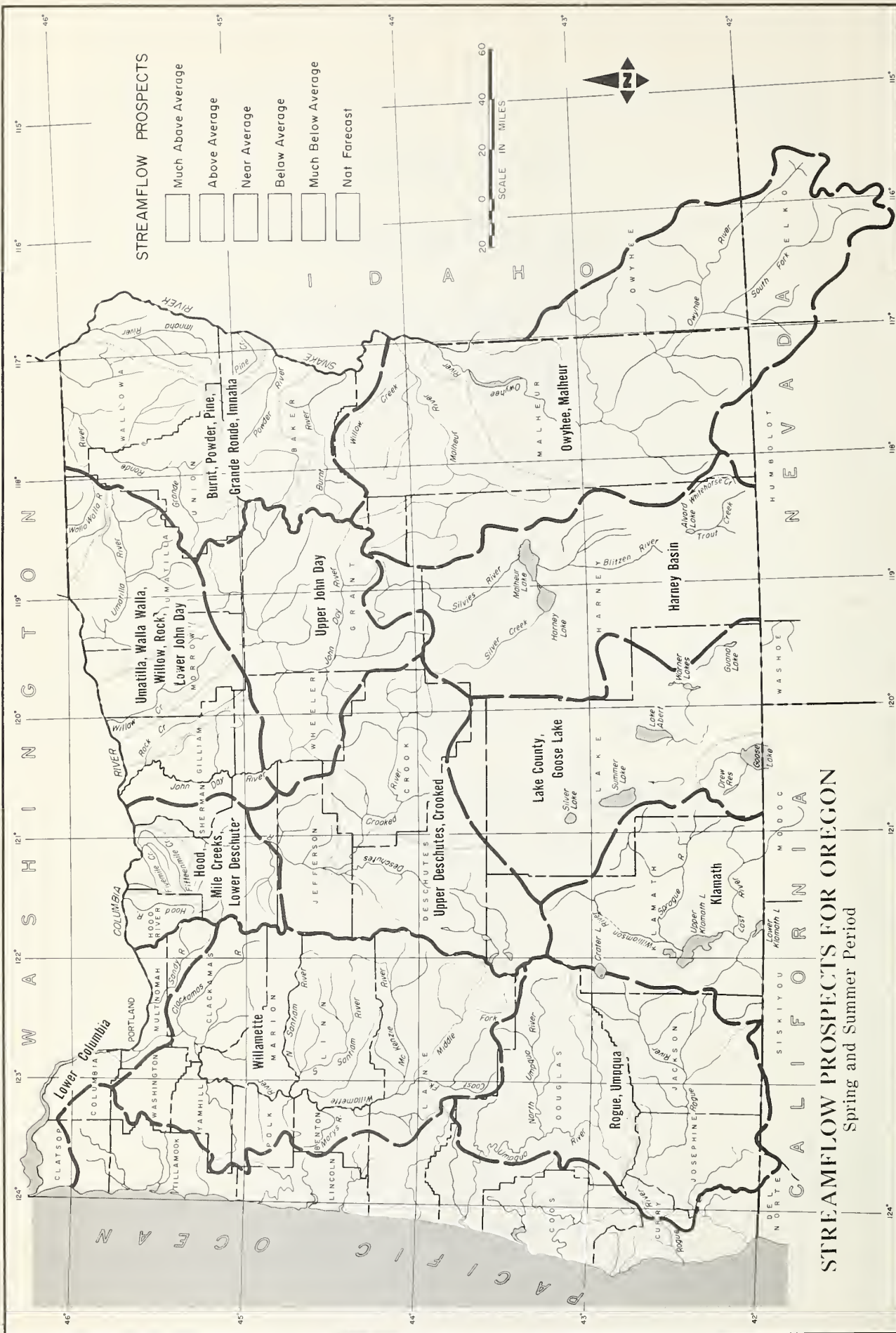
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LIST OF COOPERATORS.....INSIDE BACK COVER



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WATER SUPPLY OUTLOOK for OREGON

JANUARY 1, 1977

THE WATER SUPPLY OUTLOOK CURRENTLY VARIES FROM POOR TO NEAR AVERAGE FOR USERS WITH STORED WATER SUPPLIES AND POOR FOR THOSE DEPENDENT UPON DIRECT DIVERSION. THE SNOWPACK IN OREGON MOUNTAIN WATERSHEDS IS 0 TO 25% OF AVERAGE. RESERVOIR STORAGE IS NEAR NORMAL TO ABOVE.

SNOW COVER

THE MOUNTAIN SNOWPACK IS VERY POOR. MEASUREMENTS WERE ALL TIME LOWS ON 25 OF 37 KEY SNOW COURSES IN THE STATE. THE PACK IS 0 TO 25% OF AVERAGE GENERALLY. NORMALLY 1/3 OF THE SNOWPACK IS ON THE GROUND BY JANUARY 1. IF NORMAL ACCUMULATIONS WERE TO OCCUR BETWEEN NOW AND APRIL 1, OUR SNOW COVER WOULD STILL BE ONLY 66% OF NORMAL IN APRIL. VERY HEAVY SNOWS ARE NEEDED TO REMEDY THE SITUATION.

PRECIPITATION

THE PRECIPITATION SINCE SEPTEMBER HAS BEEN BELOW AVERAGE THROUGHOUT OREGON. DECEMBER WHICH IS NORMALLY VERY WET WAS EXTREMELY DRY. PRECIPITATION VARIED FROM 5 TO 10% OF AVERAGE IN THE SOUTHERN HALF OF THE STATE TO 15 TO 20% IN THE NORTHERN HALF DURING THIS MONTH.

SOIL MOISTURE

DUE TO THE LACK OF RAINFALL SINCE SEPTEMBER, MOUNTAIN SOILS ARE MUCH DRIER THAN NORMAL. THIS WILL DETRACT FROM THE SNOWMELT RUNOFF WHEN IT BEGINS IN THE SPRING.

continued--

RESERVOIR STORAGE

RESERVOIR STORAGE IS THE ONE BRIGHT SPOT IN THE OREGON WATER SUPPLY PICTURE. CARRYOVER STORAGE FROM LAST YEAR'S GOOD RUNOFF IS NEAR AVERAGE TO ABOVE AVERAGE IN MOST PRINCIPAL IRRIGATION RESERVOIRS. USERS WITH ACCESS TO THESE STORED SUPPLIES SHOULD EXPERIENCE NEAR AVERAGE TO BELOW AVERAGE WATER CONDITIONS.

STREAMFLOW

STREAMS ARE CURRENTLY STILL FLOWING AT NEARLY THE SAME RATES AS IN SEPTEMBER WHICH IS THE LOW PERIOD FOR THE YEAR. RUNOFF IN DECEMBER WAS 10 TO 30% OF NORMAL. THIS FACTOR WILL ALSO DETRACT FROM THE SPRING SNOWMELT. STREAMFLOW IS EXPECTED TO BE POOR NEXT SPRING AND SUMMER. HEAVY RAINS AND SNOWFALL WOULD BE REQUIRED DURING THE NEXT 2 TO 3 MONTHS TO RECOVER FROM THE POOR WATER CONDITIONS EXISTENT AT THIS TIME.

This report contains data furnished by the Oregon Department of Water Resources, U. S. Geological Survey, NOAA National Weather Service and other cooperators.



WATER SUPPLY OUTLOOK

OWYHEE, MALHEUR WATERSHEDS

OREGON

GENERAL OUTLOOK

THE CURRENT WATER SUPPLY PICTURE IS POOR TO AVERAGE. NEAR AVERAGE SUPPLIES SHOULD BE AVAILABLE TO USERS WITH ACCESS TO RESERVOIRED WATER. THOSE DEPENDENT ON DIRECT DIVERSION, SHOULD HAVE POOR SUPPLIES. THE SNOWPACK IS 5% OF NORMAL. PRECIPITATION SINCE NOVEMBER 1 HAS BEEN 14% OF AVERAGE. SOIL MOISTURE IS BELOW NORMAL.



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR		PAST RECORD	
	FORECAST		THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average	PERIOD	Average C
Bully Creek at Warm Springs Malheur near Drewsey Malheur, North Fork at Beulah Owyhee Reservoir net Inflow				
Note: Forecasts begin on Feb. 1, 1977.				

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Owyhee near Rome		Forecasts begin in the Feb. 1 report which will be issued about Feb. 8, 1977.	

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average C
Antelope	70.0	No Rpt.	--	6.2 ^b
Beulah Reservoir	60.0	21.5	20.0	17.8
Bully Creek	30.0	12.2	14.2	10.4
Owyhee	715.0	469.2	594.2	363.2
Warm Springs	191.0	74.8	125.2	65.6

SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average C
Jordan Creek Malheur River Owyhee River		Measurements begin in the Feb. 1 report which will be issued about Feb. 8, 1977.	

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average C
Jordan Creek	2	0	0
Malheur River	4	5	5
Owyhee River	3	0	0

(a) Estimated. (b) 1958-72 adjusted average. (c) 1958-72, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

WATER SUPPLY OUTLOOK

BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS

OREGON

GENERAL OUTLOOK

THE CURRENT WATER SUPPLY PICTURE IS POOR TO AVERAGE. NEAR AVERAGE TO BELOW FOR USERS WITH ACCESS TO STORED WATER AND POOR FOR THOSE DEPENDENT ON DIRECT DIVERSION. THE MOUNTAIN SNOWPACK IS 10 TO 20% OF NORMAL. PRECIPITATION DURING NOVEMBER AND DECEMBER WAS 17% OF AVERAGE. SOIL MOISTURE IS POOR.



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ^c
Bear near Wallowa Burnt near Hereford Catherine near Union Eagle Creek abv. Skull Creek Grande Ronde at La Grande Hurricane near Joseph Immaha at Immaha Lostine near Lostine Powder near Sumpter Wallowa, East Fork near Joseph					

Note: Forecasts begin on Feb. 1, 1977.

RESERVOIR STORAGE (Thousand Ac. Ft.)

END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ^c
Phillips Lake	73.5	44.8	--	--
Thief Valley	17.4	15.9	17.4	14.4 ^b
Unity	25.2	10.5	11.1	7.7
Wallowa Lake	37.5	24.2	26.4	19.9

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^c
Burnt River	3	20	20
Grande Ronde River above La Grande	3	10	10
Powder River	2	15	10

SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average ^c
Burnt, Powder Grande Ronde, Catherine Creek, Immaha River			

Measurements begin in the Feb. 1 report which will be issued about Feb. 8, 1977.

(a) Estimated. (b) 1958-72 adjusted average. (c) 1958-72, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

WATER SUPPLY OUTLOOK

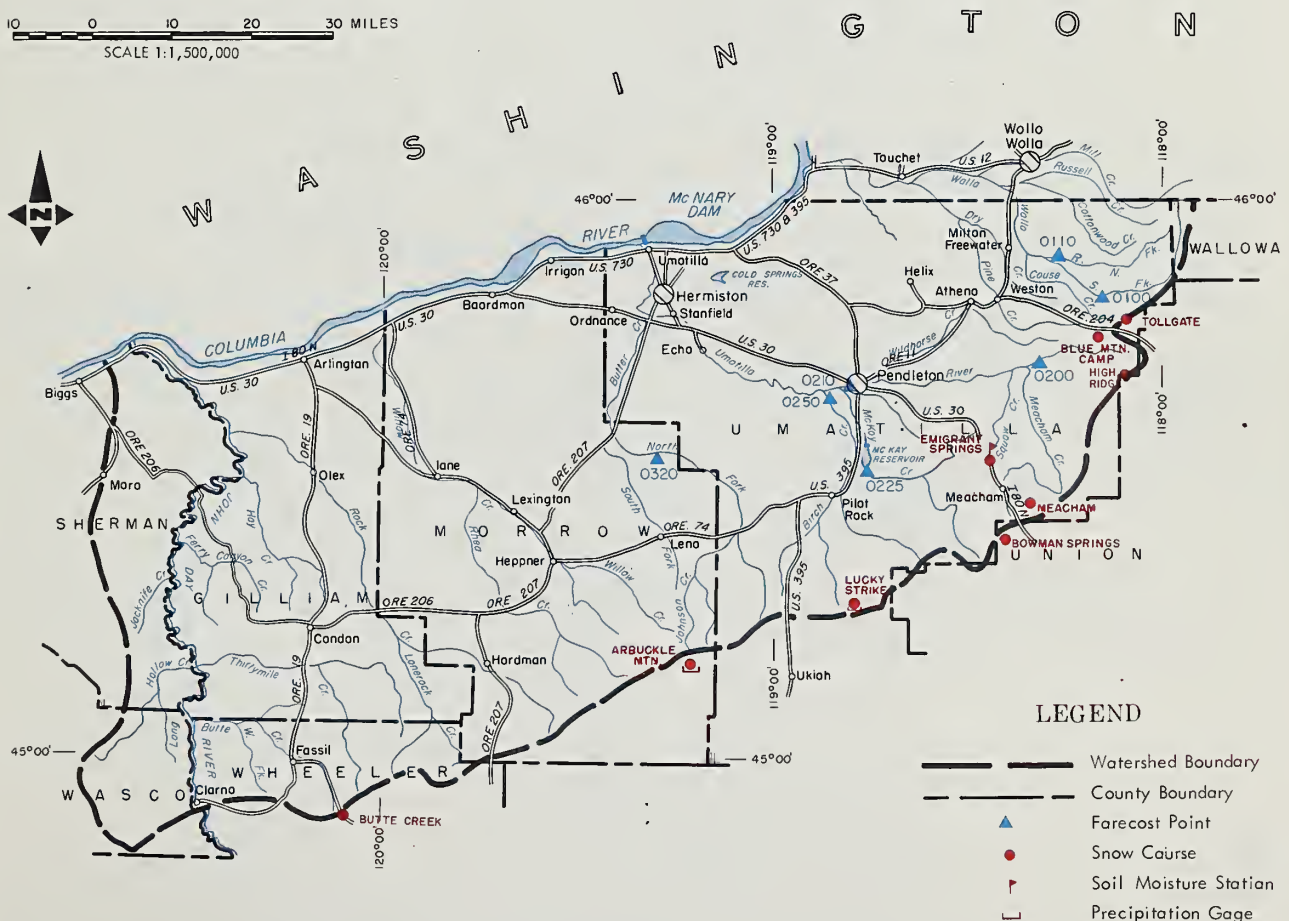
UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS

OREGON

GENERAL OUTLOOK

THE WATER SUPPLY PICTURE IS POOR. THE MOUNTAIN SNOWPACK IS 5% OF NORMAL. PRECIPITATION SINCE NOVEMBER 1 HAS ONLY BEEN 20% OF AVERAGE. SOILS ON MOUNTAIN WATERSHEDS ARE DRY. RESERVOIR STORAGE IS HALF TO TWO-THIRDS OF AVERAGE FOR JANUARY 1.

10 0 10 20 30 MILES
SCALE 1:1,500,000



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR		PAST RECORD	
	FORECAST		THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average	Last Year	Average ^c
Birch Creek at Rieth McKay near Pilot Rock Umatilla near Gibbon Umatilla at Pendleton Walla Walla, South Fork near Milton				

Note: Forecasts begin on Feb. 1, 1977.

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Umatilla at Pendleton			

Forecasts begin in the Feb. 1 report which will be issued about Feb. 8, 1977.

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ^c
Cold Springs	50.0	9.8	23.4	21.6
McKay	73.8	12.2	31.3	18.3

SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average ^c
Umatilla, Walla Walla, McKay Creek			

Measurements begin in the Feb. 1 report which will be issued about Feb. 8, 1977.

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^c
McKay Creek	2	5	5
Umatilla River	3	5	5
Walla Walla River	2	5	5

THE WATER SUPPLY PICTURE IS POOR. THE MOUNTAIN SNOWPACK IS 10 TO 15% OF NORMAL FOR JANUARY 1. PRECIPITATION SINCE NOVEMBER 1 HAS BEEN ONLY 17% OF AVERAGE. SOIL MOISTURE IS BELOW AVERAGE.



STREAMFLOW FORECASTS		THIS YEAR		PAST RECORD	
BASIN, STREAM and/or FORECAST POINT	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ^c
Camas Creek near Ukiah					
John Day, Middle Fork at Ritter					
John Day, North Fork at Monument					
John Day at Prairie City					
Strawberry near Prairie City					

Note: Forecasts begin on Feb. 1, 1977.

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STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ^c
Beaver Creek near Paulina Crane Prairie Reservoir total Inflow Crescent at Crescent Lake Crooked near Post Deschutes at Benham Falls Deschutes below Snow Creek Deschutes, Little near La Pine Ochoco Reservoir net Inflow Odell near Crescent Squaw near Sisters Tumalo near Bend					

Note: Forecasts begin on Feb. 1, 1977.

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Crane Prairie net Inflow Crooked R. near Post Deschutes at Bend Little Deschutes near La Pine			

Forecasts begin in the Feb. 1 report which will be issued about Feb. 8, 1977.

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ^c
Crane Prairie	55.3	36.1	55.5	38.1
Crescent Lake	86.9	66.6	79.9	42.2
Ochoco	47.5	24.6	27.8	17.5
Prineville	153.0	92.6	93.1	98.5
Wickiup	200.0	158.0	179.5	121.2

SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average ^c
Crooked R., Upper Deschutes River			

Measurements begin in the Feb. 1 report which will be issued about Feb. 8, 1977.

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^c
Crooked, Ochoco	1	--	5
Deschutes abv. Wickiup	1	5	5
Little Deschutes	2	10	10
Tumalo & Squaw Crs.	2	5	5

(a) Estimated. (b) 1958-72 adjusted average. (c) 1958-72, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

GENERAL OUTLOOK

10 0 10 20 MILES

SCALE 1:1,000,000



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR		PAST RECORD	
	FORECAST		THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average	Last Year	Average ^c
Hood River near Tucker Bridge Hood, West Fork near Dee White below Tygh Valley				
Note: Forecasts begin on Feb. 1, 1977.				

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Clear Branch Inflow		Forecasts begin in the Feb. 1 report which will be issued about Feb. 8, 1977.	

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ^c
Clear Lake (Wasco)	11.9	6.9	9.0	1.5

SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average ^c
Hood River, Mile Creeks			
Measurements begin in the Feb. 1 report which will be issued about Feb. 8, 1977.			

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^c
Hood River	2	20	15
Mile Creeks	--	--	--
White River	2	20	15

(a) Estimated. (b) 1958-72 adjusted average. (c) 1958-72, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

WATER SUPPLY OUTLOOK

LOWER COLUMBIA WATERSHEDS

OREGON

GENERAL OUTLOOK

THE WATER SUPPLY PICTURE FOR THE LOWER COLUMBIA IS MUCH BELOW AVERAGE. PRECIPITATION SINCE SEPTEMBER OVER THE COLUMBIA BASIN HAS BEEN POOR TO MUCH BELOW NORMAL. THE SNOWPACK IS 0 TO 20% OF AVERAGE IN MOST PARTS OF THE BASIN EXCEPT IN THE NORTHERN IDAHO AND MONTANA PORTIONS WHERE IT IS NEAR 30% OF AVERAGE. FLOW IN THE COLUMBIA AT THE DALLES IS EXPECTED TO BE ABOUT 70% OF AVERAGE IN SPRING AND SUMMER.



SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^c
Sandy River	1	20	20

STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR		PAST RECORD	
	FORECAST		THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average	PERIOD	Last Year Average ^c
Columbia at The Dalles Sandy River near Marmot				

Note: Forecasts begin on Feb. 1, 1977.

HISTORICAL DATA (Columbia River at The Dalles)

YEAR	STREAMFLOW ^d (1,000 AF)			REGULATED PEAK (1,000 cfs)	DATE
	APR — SEPT	APR — JUNE	MAY — JUNE		
1958	97,700	72,000	58,600	595	May 31
1959	112,500	71,900	58,900	555	June 23
1960	97,900	64,000	48,000	442	June 6
1961	101,400	74,400	64,000	699	June 8
1962	94,600	64,100	49,200	460	June 5
1963	87,000	56,300	46,200	437	June 18
1964	109,020	70,739	61,313	662	June 18
1965	114,137	80,024	62,477	520	June 9
1966	87,268	58,120	45,922	396	June 12
1967	107,771	72,408	65,112	622	June 10
1968	89,000	55,500	47,900	404	June 13
1969	112,300	85,700	63,800	515	May 15
1970	88,100	62,800	55,200	425	May 28
1971	122,900	88,400	73,700	557	May 13
1972	134,700	96,400	81,400	619	June 20
1958-72 Avg.	104,300	72,900	59,900	529	

LOWER COLUMBIA RIVER FLOOD STAGES (with 9.5' tide at Astoria)

VANCOUVER GAGE (Weather Bu)	FLOW AT THE DALLES (1,000 cfs)	DRAINAGE DISTRICT PUMPHOUSE						
		SANDY	SAUVIE ISL.	SCAPPOOSE	OER ISL.	RAINIER	BEAVER	WOODSON
		RIVER MILES						
		118.9	96.0	91.0	77.0	62.0	52.0	47.0
35 (1894)	1210	41.2	34.2	33.3	28.5	21.9	17.5	15.5
34	1160	40.5	33.5	32.5	27.7	21.2	17.0	15.0
33	1100	39.6	32.4	31.4	26.7	20.2	16.1	14.3
32 (1972)	1050	38.9	31.5	30.5	25.7	19.5	15.4	13.7
31 (1948)	1000	38.0	30.7	29.5	25.1	18.8	14.7	13.0
30	943	36.6	29.5	28.5	24.3	18.1	14.0	12.4
29	897	35.5	28.5	27.7	23.7	17.5	13.4	11.8
28	853	34.3	27.5	26.7	22.8	17.0	13.0	11.4
27 (1956)	811	33.0	26.5	25.6	21.8	16.2	12.5	11.0
26 (1950)	771	32.1	25.5	24.6	20.9	15.5	12.2	10.7
25	733	30.7	24.2	23.2	19.7	14.6	11.7	10.3
24	697	29.7	23.0	22.2	19.0	14.1	11.4	10.2
23	662	29.0	22.3	21.4	18.4	13.6	11.2	10.0
22	628	28.1	21.4	20.3	17.2	13.0	10.9	9.7
21	595	27.2	20.7	19.5	16.4	12.6	10.6	9.6
20 (1954)	564	26.2	19.8	18.6	15.5	12.1	10.2	9.4
19	534	25.5	19.2	18.0	15.0	11.8	10.0	9.3
18	501	24.4	18.3	17.2	14.3	11.4	9.8	9.1
17	479	23.4	17.4	16.4	13.7	11.0	9.6	8.9
16	452	22.4	16.5	15.5	13.0	10.5	9.3	8.7

(a) Estimated (b) 1958-72 adjusted average (c) 1958-72, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

WATER SUPPLY OUTLOOK

WILLAMETTE WATERSHEDS

OREGON

Area 8

GENERAL OUTLOOK

WATER SUPPLIES ARE EXPECTED TO BE POOR IN THE WILLAMETTE VALLEY FOR MANY USERS. THOSE WATER USERS WITH ACCESS TO STORED SUPPLIES CAN EXPECT NEAR AVERAGE CONDITIONS. THE SNOWPACK IS ONLY 5 TO 10% OF AVERAGE. WINTER PRECIPITATION HAS ONLY 20% OF NORMAL SO FAR. STREAMFLOW IS CURRENTLY MUCH BELOW AVERAGE FOR THIS TIME OF YEAR.



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ^c
Clackamas at Estacada Clackamas above Three Lynx McKenzie at McKenzie Bridge McKenzie near Vida McKenzie, So. Fork near Rainbow Oak Grove Fork above Power Intake Row near Dorena Santiam, North at Mehama Santiam, South at Waterloo Willamette, Mid. Fk. blw. N. Fk. nr. Oakridge Willamette, No. Fk. of Mid. Fk. near Oakridge Willamette at Salem					

Note: Forecasts begin on Feb. 1, 1977.

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^c
Clackamas River	2	5	5
McKenzie River	3	10	10
Row River	3	30	15
Santiam River	4	10	5
Willamette, Mid. Fk.	3	10	10

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ^c
Blue River	85.6*	0.0	0.1	--
Cottage Grove	30.0*	0.0	0.3	1.4
Cougar	155.2*	0.0	5.7	14.4 ^b
Detroit	299.9*	0.0	15.5	25.3
Dorena	70.5*	0.0	0.1	6.7
Fall Creek	115.0*	0.0	0.0	0.0 ^b
Fern Ridge	94.2*	0.0	0.0	10.4 ^b
Foster	30.0*	0.1	0.4	1.1 ^b
Green Peter	270.0*	0.0	26.9	6.6 ^b
Hills Creek	200.0*	0.0	8.3	15.9 ^b
Lookout Point	337.2*	0.0	8.7	34.4
Timothy Lake	61.7	39.3	61.0	49.1
Henry Hagg Lake	53.0	22.6	26.8	--
*Multiple purpose reservoir--space reserved primarily for flood runoff.				

(a) Estimated. (b) 1958-72 adjusted average. (c) 1958-72, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

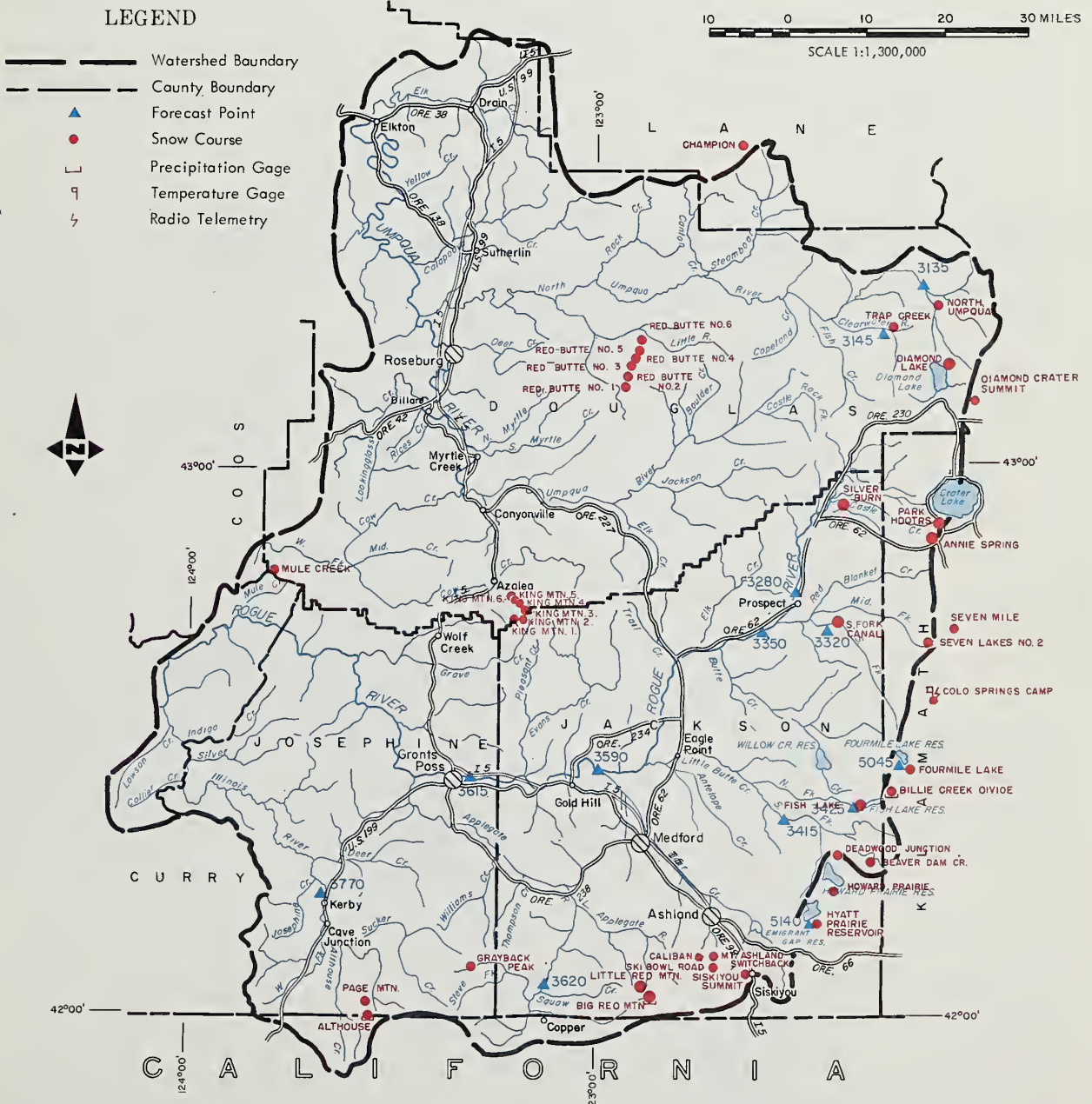
WATER SUPPLY OUTLOOK

ROGUE, UMPQUA, WATERSHEDS

OREGON

GENERAL OUTLOOK

WATER SUPPLIES ARE EXPECTED TO BE POOR TO NEAR AVERAGE. ONLY THOSE USERS WITH ACCESS TO STORED SUPPLIES CAN EXPECT AVERAGE TO BELOW AVERAGE WATER CONDITIONS THIS NEXT SPRING AND SUMMER. THE SNOWPACK IS 0 TO 10% OF AVERAGE. WINTER PRECIPITATION HAS ONLY BEEN 14% OF NORMAL. RESERVOIR STORAGE IS NEAR AVERAGE FOR THIS TIME OF YEAR. STREAMFLOW IS CURRENTLY MUCH BELOW NORMAL DUE TO THE LACK OF RAIN.



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR		PAST RECORD	
	FORECAST		THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average	PERIOD	Last Year Average ^c
Applegate near Copper Clearwater above Trap Creek Fourmile Lake net Inflow Hyatt Reservoir net Inflow Illinois River near Kerby Little Butte, N. Fk. at Fish Lake nr. Lake Cr. Little Butte, S. Fk. near Lake Creek Rogue above Prospect Rogue, South Fork near Prospect Rogue at Raygold near Central Point Rogue at Grants Pass Umpqua, No. blw. Lemoio Res. nr. Toketee Falls				

Note: Forecasts begin on Feb. 1, 1977.

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Little Butte Creek, South Fork Rogue at Raygold		Forecasts begin in the Feb. 1 report which will be issued about Feb. 8, 1977.	

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ^c
Emigrant Lake	39.0	20.1	18.6	18.0*
Fish Lake	8.0	6.2	6.9	5.0
Fourmile Lake	16.1	9.6	14.4	7.7
Howard Prairie	60.0	40.3	49.5	35.3 ^b
Hyatt Prairie	16.1	10.0	12.0	9.8

* Average for years of record (in base period) after reconstruction.

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^c
Applegate	--	--	--
Bear Creek	1	100	5
Butte Creek	4	0	0
Illinois River	--	--	--
North Umpqua	3	10	10
Rogue River	4	5	5

(a) Estimated. (b) 1958-72 adjusted average. (c) 1958-72, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

THE WATER SUPPLY PICTURE VARIES FROM POOR TO NEAR AVERAGE. ONLY THOSE USERS WITH ACCESS TO STORED WATER SUPPLIES CAN EXPECT AVERAGE WATER CONDITIONS NEXT SPRING AND SUMMER. THE SNOWPACK IS 5 TO 20% OF AVERAGE. WINTER PRECIPITATION HAS ONLY BEEN 9% OF AVERAGE SO FAR. SOIL MOISTURE IS BELOW NORMAL. RESERVOIR STORAGE IS CLOSE TO NORMAL FOR JANUARY 1.



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR		PAST RECORD	
	FORECAST		THOUSAND ACRE FEET	
	Thousand Acres Feet	Percent of Average	PERIOD	Last Year Average ^c
Clear Lake Reservoir Inflow Gerber Reservoir Inflow Sprague near Chiloquin Upper Klamath Lake net Inflow Williamson below Sprague River				

Note: Forecasts begin on Feb. 1, 1977.

SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average ^c
Upper Klamath			

Measurements begin in the Feb. 1 report which will be issued about Feb. 8, 1977.

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ^c
Clear Lake	440.2	212.1	285.6	188.4
Gerber	94.0	35.0	53.3	37.9
Upper Klamath Lake	584.0	320.5	324.2	341.3

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^c
Lost River	1	0	0
Sprague River	2	10	20
Upper Klamath	5	10	5
Williamson River	3	5	5

WATER SUPPLY OUTLOOK

LAKE COUNTY, GOOSE LAKE WATERSHEDS

OREGON

GENERAL OUTLOOK

LAKE COUNTY IS FACING A POOR TO NEAR AVERAGE WATER SUPPLY OUTLOOK FOR NEXT SPRING AND SUMMER. ONLY USERS WITH ACCESS TO STORED WATER CAN EXPECT NEAR NORMAL WATER SUPPLIES. THE SNOWPACK IS 20 TO 35% OF AVERAGE. THESE MEASUREMENTS EVEN INCLUDE THE SNOW WHICH FELL AS A RESULT OF THE JANUARY 2 AND 3 STORM. WINTER PRECIPITATION SO FAR HAS ONLY BEEN 7% OF NORMAL. SOIL MOISTURE IS BELOW NORMAL. STORAGE LEVELS IN DREWS AND COTTONWOOD RESERVOIRS IS NEAR NORMAL FOR THIS TIME OF YEAR.



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ^c
Chewaucan near Paisley Deep above Adel Drews Reservoir net Inflow Honey Creek near Plush Silver Creek near Silver Lake Twentymile near Adel					

Note: Forecasts begin on Feb. 1, 1977.

SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average ^c
Chewaucan, Silver Creek, Drew Creek Honey, Deep, 20-Mile Cr.			

Measurements begin in the Feb. 1 report which will be issued about Feb. 8, 1977.

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ^c
Cottonwood	8.7	1.3 ^a	1.4	2.1 ^{*b}
Drews	63.0	21.4 ^a	35.3	29.8

* Average for years of record (in base period) after reconstruction.

SUMMARY of SNOW MEASUREMENTS

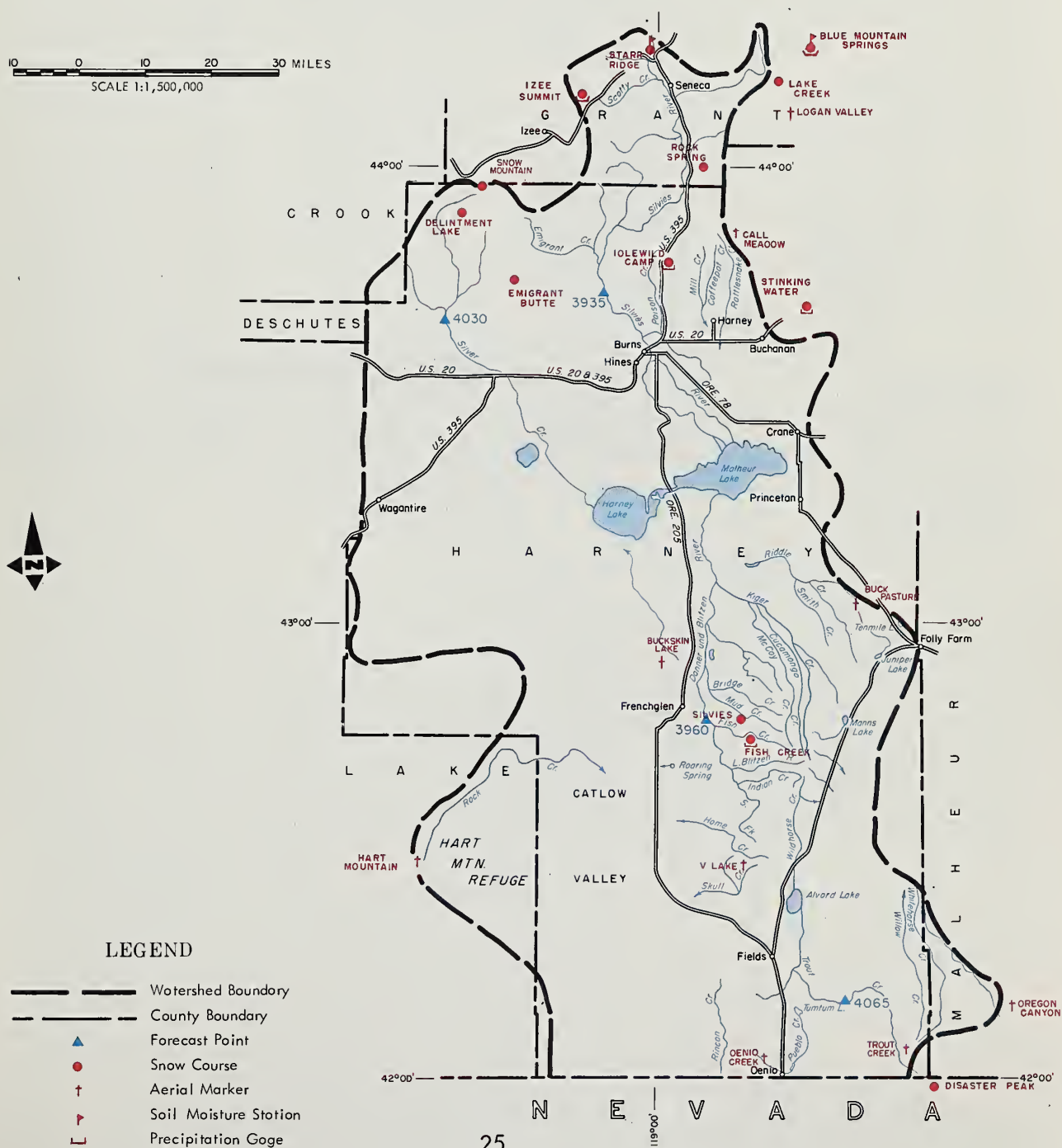
(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average
Chewaucan River	2	75	20
Deep Creek	1	60	35
Drew Creek	1	125	40
Honey Creek	1	6	35
Silver Creek	2	10	5

WATER SUPPLY OUTLOOK HARNEY BASIN WATERSHEDS OREGON

GENERAL OUTLOOK

THE WATER SUPPLY PICTURE IN THE HARNEY BASIN IS POOR. EARLY SEASON MEASUREMENTS INDICATE A SNOWPACK ONLY 10% OF NORMAL. WINTER PRECIPITATION SO FAR HAS BEEN ONLY 14% OF THE AVERAGE. SOIL MOISTURE IS ALSO MUCH BELOW NORMAL.



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ^c
Donner und Blitzen near Frenchglen Silver near Riley Silvies River near Burns Trout Creek near Denio					

Note: Forecasts begin on Feb. 1, 1977.

SOIL MOISTURE

RIVER BASIN	Number of Stations	THIS YEAR'S MOISTURE as PERCENT OF:	
		Last Year	Average ^c
Silvies River, Silver Cr. Trout Cr., Donner und Blitzen River			
Measurements begin in the Feb. 1 report which will be issued about Feb. 8, 1977.			

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^c
Donner und Blitzen R.	1	0	0
Silvies River	3	10	10

(a) Estimated. (b) 1958-72 adjusted average. (c) 1958-72, 15 year average (d) Corrected to natural flow. (e) Not scheduled.

BASIC DATA SUPPLEMENT 1

JANUARY 1, 1977

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST REC.	
	Date of Survey	Snow Depth (In.)	Water Cont (In.)	Water Content (inches)	
				Last Yr.	Ave. C
OWYHEE, MALHEUR WATERSHEDS					
Antelope Ridge (Ida.)		e			
Battle Creek (Ida.)		e			
Bear Creek (Nev.)		e			7.8 ^b
Big Bend (Nev.)	12/28	0	0.0	3.0 ^a	3.0 ^b
Blue Mountain Springs	12/28	2	0.6	6.0	6.1
Blue Mtn. Springs Pillow*	12/28	---	0.4	8.3	---
Buck Pasture		e			
Buckskin, Lower (Nev.)		e			
Buckskin, Upper (Nev.)		e			
Bull Basin (Ida.)		e			
Bully Creek		e			
Call Meadow		e			
Columbia Basin (Nev.)	12/28	0	0.0	3.0	---
Cottonwood-Indian		e			
Disaster Peak (Nev.)		e			
Eldorado Pass	12/30	0	0.0	1.2	1.7
Fawn Creek (Nev.)	12/28	0	0.0	3.0	---
Fish Creek		e			
Fish Creek***		e			
Fish Creek Pillow*		e			
Flag Prairie		e			
Fox Creek (Nev.)		e			
Fry Canyon (Nev.)	12/28	0	0.0	2.7	3.0
Gold Creek (Nev.)	12/28	0	0.0	1.8	1.9
Granite Peak (Nev.)		e			
Hyde Pasture (Ida.)		e			
Jack Creek, Lower (Nev.)		e			
Jack Creek, Upper (Nev.)	12/28	0	0.0	3.0	---
Jack Peak (Nev.)		e			
Lake Creek R.S.	12/28	T	0.1	3.4	3.8 ^b
Laurel Draw (Nev.)		e			
Logan Valley		e			
Lookout Butte		e			
Louse Canyon		e			
Martin Creek (Nev.)		e			
Merritt Mountain (Nev.)		e			
Midas (Nev.)		e			
Mud Flat (Ida.)		e			
Oregon Canyon		e			
Quinn Ridge (Nev.)		e			
Red Canyon (Ida.)		e			
Rock Spring	12/28	T	0.1	---	---
Rodeo Flat (Nev.)	12/28	0	0.0	1.8	1.8 ^a
76 Creek (Nev.)		e		2.4 ^a	2.6 ^b
Silver City (Ida.)	12/30	0	0.0	4.6	5.6 ^b
Silver City (Ida.)***		e			
Silvies		e			
Silvies***		e			
Silvies Pillow*		e			
South Mountain #2 (Ida.)	12/30	0	0.0	4.8	3.9 ^b
Stag Mountain (Nev.)		e			
Stinking Water	12/30	0	0.0	1.5	1.4 ^b
Succor Creek (Ida.)		e			
Taylor Canyon (Nev.)	12/28	0	0.0	1.0	1.8 ^b
Toe Jam (Nev.)		e			
Tremewan Ranch (Nev.)		e		---	0.8
Triangle (Ida.)		e			
Trout Creek		e			
"V" Lake		e			
Vaught Ranch (Ida.)		e			
War Eagle (Ida.)		e			

SNOW

SNOW		THIS YEAR		PAST REC.	
DRAINAGE BASIN and/or SNOW COURSE	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (inches)	
				Last Yr.	Ave. C
BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS					
Aneroid Lake #1		e			
Aneroid Lake #2		e			
Anthony Lake	12/27	8	1.4	11.8	11.0
Bald Mountain (Ore.)		e			
Beaver Reservoir	12/29	T	0.1	4.6	5.4 ^b
Big Sheep		e			
Blue Mtn. Summit	12/29	2	0.6	2.7	3.3
Bourne		e			
County Line	12/30	2	0.3	1.6	2.2
Dooley Mountain	12/28	2	0.4	2.1	3.8
Eilertson Meadows	12/29	4	0.6	3.2	4.7
Eldorado Pass	12/30	0	0.0	1.2	1.7
Gold Center		e			
Goodrich Lake		e			
Little Alps	12/27	4	0.6	3.9	5.5 ^b
Little Antone	12/27	2	0.5	1.5	4.1
Little Antone Alt.	12/27	4	0.7	2.6	---
Luck Strike	12/29	T	0.1	---	---
Lucky Strike Pillow*	NO REPORT				
Meacham	12/30	T	0.1	3.2	3.3
Mirror Lake		e			
Moss Spring		e			
Schneider Meadow		e			
Schoolmarm	12/30	1	0.2	---	1.9
Standley		e		1.2	---
Taylor Green		e			
Tipton	12/28	4	0.8	5.0	4.2
Tipton Snow Pillow*	NO REPORT				
Tollgate	12/27	6	0.6	10.2	8.9
TV Ridge		e			
UMATILLA, WALLA WALLA, WILLOW, ROCK LOWER JOHN DAY WATERSHEDS					
Arbuckle Mountain	12/29	T	0.1	---	---
Arbuckle Mtn. Pillow*	NO REPORT				
Blue Mountain Camp	12/30	T	0.1	6.4	5.5 ^c
Bowman Springs	12/29	4	0.5	2.7	---
Butte Creek Summit	12/31	0	0.0	---	---
Emigrant Springs	12/30	T	0.1	0.4	2.4
High Ridge Pillow*	NO REPORT				
Lucky Strike	12/29	T	0.1	---	---
Lucky Strike Pillow*	NO REPORT				
Meacham	12/30	T	0.1	3.2	3.3
Tollgate	12/27	6	0.6	10.2	8.9

BASIC DATA SUPPLEMENT 1

JANUARY 1, 1977

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST REC.	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (inches)	
				Last Yr.	Ave. C
UPPER JOHN DAY WATERSHEDS					
Anthony Lake	12/27	8	1.4	11.8	11.0
Arbuckle Mountain	12/29	T	0.1	---	---
Arbuckle Mt. Pillow*	NO REPORT			---	---
Blue Mountain Springs	12/28	2	0.6	6.0	6.1
Blue Mt. Springs Pillow*	12/28	---	0.4	8.3	---
Blue Mountain Summit	12/29	2	0.6	2.7	3.3
Butte Creek Summit	12/31	0	0.0	---	---
Derr		e			
Gold Center		e			
Indian Creek Butte		e			
Izee Summit	12/28	1	0.6	2.8	3.0
Lucky Strike	12/29	T	0.1	---	---
Lucky Strike Pillow*		e			
Marks Creek	12/28	T	0.1	---	1.9
Ochoco Meadows		e			
Olive Lake		e			
Schoolmarm	12/30	1	0.2	1.2	1.9
Snow Mountain		e			
Snow Mt. Pillow**	1/3	---	1.0	1.9	---
Starr Ridge	12/28	T	0.1	---	2.2
Tioton	12/28	4	0.8	5.0	4.2
Tipton Snow Pillow*	NO REPORT			6.2	---
UPPER DESCHUTES, CROOKED WATERSHEDS					
Bald Peter		e		14.8	---
Caldwell Ranch		e			
Cascade	12/28	6	1.3	13.1	10.7
Chemult	12/28	T	0.1	2.3	4.0
Chemult Alternate	12/28	T	0.1	2.8	---
Derr		e			
Hogg Pass	12/29	8	1.6	12.4	14.5
Hungry Flat	12/30	0	0.0	---	3.5
Irish-Taylor Pillow**	1/3	---	0.4	---	---
Lionshead	NO REPORT			2.4	---
Marks Creek	12/28	T	0.1	---	1.9
New Crescent Lake		e			
New dutchman Flat #2	12/30	6	1.6	21.5	22.3
Ochoco Meadows		e			
Racing Creek	1/3	6	1.5	3.6	---
Snow Mountain		e			
Snow Mountain Pillow**	1/3	---	1.0	1.9	---
Summit Lake	12/30	0	0.0		
Summit Lake Pillow**	1/3	---	1.5	11.9	---
Tamarack		e			
Tangent	12/30	T	0.1	6.4	8.4
Three Creek Butte		e			
Three Creek Meadow		e			
Three Creek Mdw. Pillow**		e			
Waldo Lake		e			
Whitewater Meadow	1/3	22	2.2	1.8	---

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST REC.	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (inches)	
				Last Yr.	Ave. C
HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS					
Brooks Meadows		e			
Clear Lake	12/28	T	0.1	0.5	3.4
Clear Lake (Experimental)	12/28	2	0.6	5.7	5.4
Greenpoint		e			
Knebal Springs		e			
Mt. Hood Test Site	NO REPORT			24.3	22.9
Mud Ridge	12/28	9	2.7	11.5	---
Red Hill		e			
Still Creek	12/28	5	1.6	8.6	7.9
Switchback		e			
Tilly Jane		e			
Ulrich Ranch Junction		e			
Umbrella Falls		e			
WILLAMETTE WATERSHEDS					
Cascade Summit	12/28	6	1.3	13.1	10.7
Champion	12/28	6	1.9	6.7	11.2
Clackamas Lake		e			
Clear Lake	12/28	T	0.1	0.5	3.4
Clear Lake (Expt.)	12/28	2	0.6	5.7	5.4
Dead Horse Grade	12/28	T	0.1	4.2	6.4
Detroit (Town)	12/29	0	0.0	0.0	1.0
Detroit Dam	12/29	0	0.0	0.0	0.5
Golden Curry Creek	12/28	0	0.0	0.0	2.3
Hogg Pass	12/29	8	1.6	12.4	14.5
Lake Harriet	NO REPORT			---	1.1
Laurel Mountain	12/30	0	0.0	1.0	---
Layng Creek	12/28	0	0.0	0.0	0.1
Lookout Point Dam	12/28	0	0.0	0.0	0.0
Lost Creek Ranch	12/28	0	0.0	0.0	2.0
Lund Park	12/28	0	0.0	0.0	T
Marion Forks	12/29	0	0.0	0.0	4.7
Marys Peak		e			
McCredie Springs	12/28	0	0.0	0.2	0.5
McKenzie	12/28	12	2.4	21.4	17.8
McKenzie Bridge	12/28	0	0.0	0.0	0.6
Mill City	12/29	0	0.0	0.0	0.2
Mt. Hood Test Site**	NO REPORT			24.3	22.9
Oakridge	12/28	0	0.0	0.0	0.0
Peavine Ridge Pillow**	NO REPORT			6.2	5.7
Railroad Overpass	12/28	0	0.0	0.5	0.8
Saddle Mountain Pillow**	NO REPORT			2.9	---
Salt Creek Falls	12/28	2	0.6	5.8	5.2
Santiam Junction	12/29	T	0.1	8.0	8.6
Seine Creek Pillow**	1/3	---	0.4	0.3	---
Still Creek	12/28	5	1.6	8.6	7.9
Summit Lake	12/30	0	0.0	---	---
Summit Lake Pillow**	1/3	---	1.5	11.9	---
Timothy Lake	NO REPORT			---	6.3
Valsetz Summit	12/30	0	0.0	0.2	---
Vida	12/28	0	0.0	0.0	0.2
Waldo Lake		e			
Weaver Creek	12/28	0	0.0	0.0	0.4
White Branch Slide	12/28	0	0.0	0.0	3.1
Whitewater Bridge	12/29	0	0.0	0.0	2.3

BASIC DATA SUPPLEMENT 1

JANUARY 1, 1977

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST REC.	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (inches)	
				Last Yr.	Ave C

ROGUE, UMPQUA WATERSHEDS					
Althouse		e			
Annie Springs	1/2	17	2.0	10.1	16.3
Beaver Dam Creek	12/31	T	0.1	8.1	6.6
Big Red Mountain		e			
Billie Creek Divide	12/28	T	0.1	9.8	8.7 ^b
Caliban		e			
Caliban (Alternate)		e			
Champion	12/28	6	1.9	6.7	11.2 ^b
Cold Spgs. Camp Pillow**		e			
Deadwood Junction	12/31	T	0.1	5.3	4.0 ^b
Diamond-Crater Summit	12/29	5	1.0	13.2	11.3 ^b
Diamond Lake	12/29	2	0.6	9.2	7.6
Fish Lake	12/28	T	0.1	7.3	5.6 ^b
Fourmile Lake		e			
Grayback Peak		e			
Howard Prairie Reservoir	12/31	T	0.1	3.5	3.9 ^b
Hyatt Prairie	12/31	T	0.1	3.6	3.7
King Mountain #1	12/28	0	0.0	0.0	8.3
King Mountain #2	12/28	0	0.0	0.0	6.5
King Mountain #3	12/28	0	0.0	0.0	3.4
King Mountain #4	12/28	0	0.0	0.0	0.2
King Mountain #5	12/28	0	0.0	0.0	0.0
King Mountain #6	12/28	0	0.0	0.0	0.0
Little Red Mountain		e			
Mt. Ashland Switchback		e			
Mule Creek	12/28	0	0.0	0.0	---
North Umpqua	12/30	2	0.7	5.1	6.0
Page Mountain		e			
Park Headquarters	1/2	18	2.3	25.5	23.3
Red Butte #1	12/28	0	0.0	0.0	6.5
Red Butte #2	12/28	0	0.0	0.0	4.0
Red Butte #3	12/28	0	0.0	0.0	2.8
Red Butte #4	12/28	0	0.0	0.0	1.8
Red Butte #5	12/28	0	0.0	0.0	2.2
Red Butte #6	12/28	0	0.0	0.0	0.6
Seven Mile		e			
Silver Burn	12/30	0	0.0	8.5	5.6
Siskiyou Summit	12/28	T	0.1	0.0	3.7 ^b
Ski Bowl Road		e			
South Fork Canal	12/30	0	0.0	0.0	2.1
Trap Creek	12/30	2	0.8	5.5	5.2 ^b

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST REC.	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (inches)	
				Last Yr.	Ave C

KLAMATH WATERSHEDS					
Annie Spring	1/2	17	2.0	10.1	16.3
Billie Creek Divide	12/28	T	0.1	9.8	8.7 ^b
Chemult	12/28	T	0.1	2.3	4.0
Chemult (Alternate)	12/28	T	0.1	2.8	---
Chiloquin (PP&L)	No Report			---	0.6
Cold Spgs. Camp Pillow**		e			
Crazyman Flat***		e			
Crowder Flat (Calif.)		e			
Crystal (PP&L)	No Report			2.0	3.9
Diamond-Crater Summit	12/29	5	1.0	13.2	11.3 ^b
Diamond Lake Junction (97)	12/29	0	0.0	1.0	2.4 ^b
Dog Hollow		e			
Finley Corrals***		e			
Fort Klamath (PP&L)	No Report			---	1.7
Gerber	12/15	0	0.0	0.0	1.1 ^b
Harriman (PP&L)	No Report			2.0	1.8
Howard Prairie	12/31	T	0.1	3.5	3.9 ^b
Hyatt Prairie Reservoir	12/31	T	0.1	3.6	3.7
Kirk (PP&L)	No Report			---	3.3
Park Headquarters	1/2	18	2.3	25.5	23.3
Quartz Mountain	1/3	12	0.9	0.8	2.6
Seven Mile		e			
State Line (Calif.)		e			
Strawberry		e			
Strawberry***		e			
Summer Rim		e			
Summer Rim***		e			
Summer Rim Pillow*		e			
Sycan Flat		e			
Taylor Butte	1/4	5	1.0	0.5	2.3 ^b
Taylor Butte Pillow	1/4	--	1.0	---	---

LAKE COUNTY, GOOSE LAKE WATERSHEDS

Adin Mountain (Calif.)		e			
Bald Mountain (Nev.)		e			
Bear Flat Meadow		e			
Camas Creek	1/3	13	1.4	2.4	4.1
Cedar Pass (Calif.)		e			
Colvin Creek		e			
Cox Flat		e			
Crowder Flat (Calif.)		e			
Dismal Swamp (Calif.)		e			
Finley Corrals***		e			
Hart Mountain		e			
Little Bally Mtn. (Nev.)		e			
Mt. Bidwell (Calif.)		e			
North Star (Calif.)		e			
Patton Meadows***		e			
Quartz Mountain	1/3	12	0.9	0.8	2.6
Sherman Valley		e			
Silver Creek	12/28	T	0.1	0.4	1.5
State Line (Calif.)		e			
Strawberry		e			
Strawberry***		e			
Summer Rim		e			
Summer Rim***		e			
Summer Rim Pillow*		e			
Sycan Flat		e			

BASIC DATA SUPPLEMENT 1

JANUARY 1, 1977

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST REC.	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (inches)	
				Last Yr.	Ave. C

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST REC.	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (inches)	
				Last Yr.	Ave. C

HARNEY BASIN WATERSHEDS

Blue Mountain Springs	12/28	2	0.6	6.0	6.1
Blue Mtn. Springs Pillow*	12/28	--	0.4	8.3	---
Buck Pasture		e			
Buckskin Lake		e			
Call Meadows		e			
Delintment Lake		e			
Denio Creek		e			
Disaster Peak (Nev.)		e			
Emigrant Butte		e			
Fish Creek		e			
Fish Creek Pillow* ***		e			
Hart Mountain		e			
Idlewild Camp Alternate	12/30	0	0.0	1.9	---
Izee Summit	12/28	1	0.6	2.8	3.0
Lake Creek R. S.	12/28	T	0.1	3.4	3.8 ^b
Oregon Canyon		e			
Rock Spring	12/28	T	0.1	1.8	1.8
Silvies		e			
Silvies Pillow* ***		e			
Snow Mountain		e			
Snow Mountain Pillow**	1/3	--	1.0	1.9	---
Starr Ridge	12/28	T	0.1	---	2.2
Stinking Water	12/30	0	0.0	1.5	1.4 ^b
Trout Creek		e			
"V" Lake		e			

LOWER COLUMBIA WATERSHEDS

Blazed Alder	1/3	--	0.9	8.9	---
Mt. Hood Test Site	No Report			24.3	22.9
Mud Ridge	12/28	9	2.7	11.5	---
North Fork Reservoir	No Report			---	---
Still Creek	12/28	5	1.6	8.6	7.9

- * Manometer reading
- ** Telemetry reading
- *** Aerial
- T Trace

(a) Estimated. (b) 1958-72 adjusted average. (c) 1958-72, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

BASIC DATA SUPPLEMENT 2

JANUARY 1, 1977

SOIL MOISTURE

DRAINAGE BASIN and/or STATION		Profile (Inches)			Date of Survey	Soil Moisture (Inches)		
Name	Elevation	Depth	Capacity	This Year		Last Year	Average c	
OWYHEE, MALHEUR WATERSHEDS								
Bear Creek (Nev.)	7800	72	16.8	e	12/29	5.8	---	---
Big Bend (Nev.)	6700	48	16.7	e		---	---	
Blue Mountain Spring	5900	42	16.9	e		---	---	
Mud Flat (Ida.)	5500	48	12.8	e		---	---	
Rodeo Flat (Nev.)	6800	42	11.0	e		---	---	
Taylor Canyon (Nev.)	6200	48	15.1	e		---	---	
BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS								
Blue Mountain Summit	5100	36	16.8	12/28	8.4	9.2	8.7	
Dooley Mountain	5430	36	9.2	12/28	2.6	3.2	4.0	
Emigrant Springs	3925	48	22.3	1/3	17.7	---	---	
Ladd Summit	3730	48	18.9	12/28	8.9	10.5	10.0	
Moss Springs	5850	36	25.8	e	---	---	---	
Tollgate	5070	48	23.6	e	---	---	---	
UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS								
Battle Mountain Summit	4340	48	13.8	1/3	9.2	11.7	11.7	
Emigrant Springs	3925	48	22.3	1/3	17.7	---	---	
Tollgate	5070	48	23.6	e	---	---	---	
UPPER JOHN DAY WATERSHEDS								
Battle Mountain Summit	4340	48	13.8	1/3	9.2	11.7	11.7	
Blue Mountain Spring	5900	42	16.9	12/29	5.8	---	---	
Blue Mountain Summit	5100	36	16.8	12/28	8.4	9.2	8.7	
Derr	5670	24	9.0	e	---	---	---	
Marks Creek	4540	36	14.1	12/28	9.5	---	---	
Snow Mountain	6300	48	16.7	e	---	---	---	
Starr Ridge	5150	36	10.6	12/28	7.9	---	---	
UPPER DESCHUTES, CROOKED WATERSHEDS								
Derr	5670	24	9.0	e	12/28	9.5	---	---
Marks Creek	4540	36	14.1	e		---	---	
Snow Mountain	6300	48	16.7	e		---	---	
KLAMATH WATERSHEDS								
Quartz Mountain	5230	48	15.3	12/27	5.8	5.9	8.6	
LAKE COUNTY, GOOSE LAKE WATERSHEDS								
Camas Creek	5720	42	14.5	1/3	10.1	12.3	11.9	
Quartz Mountain	5230	48	15.3	12/27	5.8	8.4	8.6	

BASIC DATA SUPPLEMENT 2

JANUARY 1, 1977

SOIL MOISTURE

DRAINAGE BASIN and/or STATION		Profile (Inches)		Date of Survey	Soil Moisture (Inches)		
Name	Elevation	Depth	Capacity		This Year	Last Year	Average ^c
HARNEY BASIN WATERSHEDS							
Blue Mountain Spring	5900	42	16.9	12/29	5.8	---	---
Silvies	6900	48	16.4	^e		---	---
Snow Mountain	6300	48	16.7	^e		---	---
Starr Ridge	5150	36	10.6	12/28	7.9	---	---
Willow-Bald	5000	24	6.6	NO REPORT		---	---

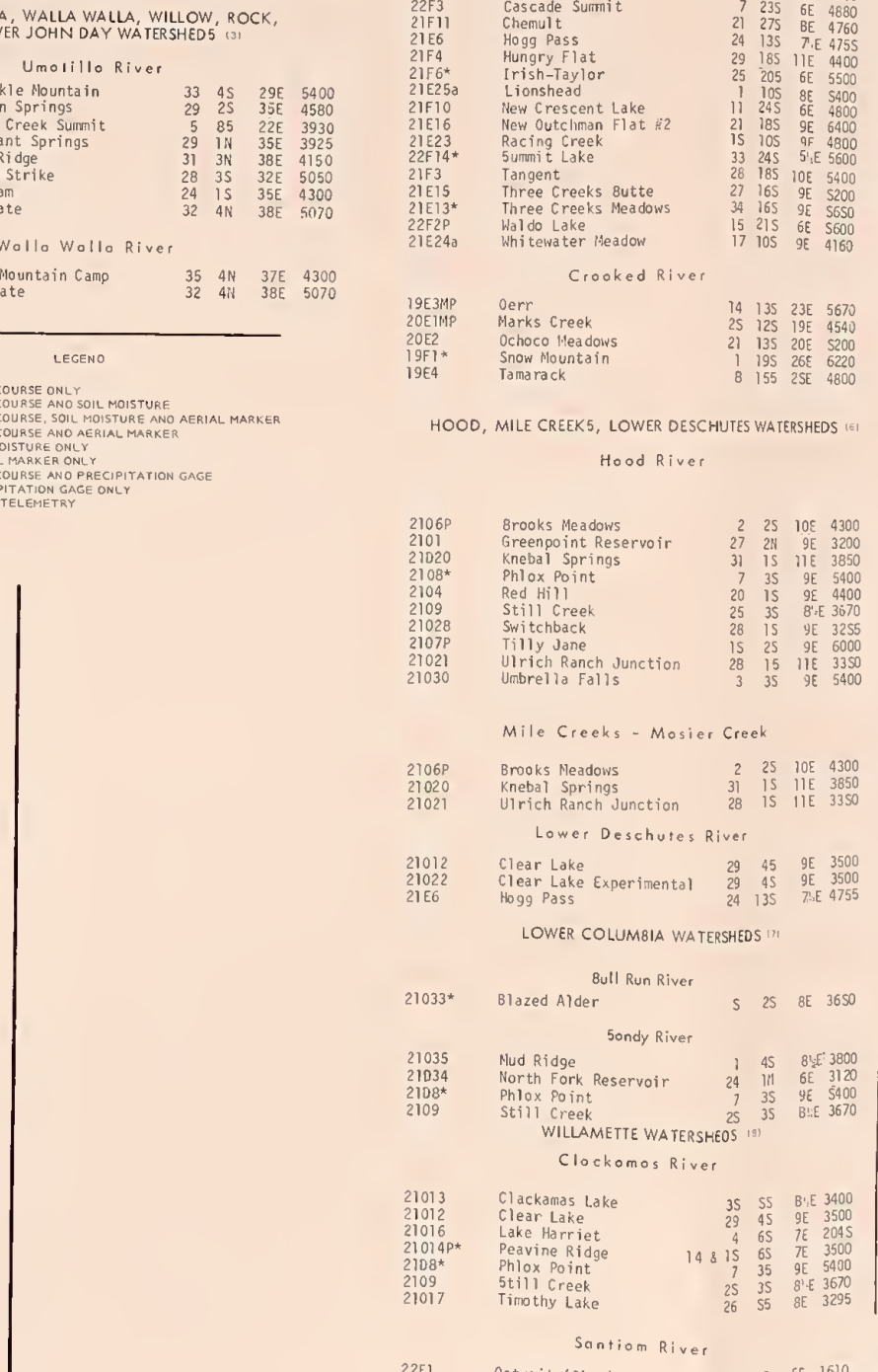
(a) Estimated. (b) 1958-72 adjusted average. (c) 1958-72, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

BASIC DATA SUPPLEMENT 3

JANUARY 1, 1977

PRECIPITATION (Inches)

DRAINAGE BASIN and PRECIPITATION GAGE LOCATION	ELEVATION	CURRENT INFORMATION		PAST RECORD	
		Date of Reading	Precipitation	Last Year	Average ^c
Billie Creek Divide (Jackson County)	5310	From To 12/28	4.40	---	---
Blue Mt. Springs (Grant County)	5900	From To 12/28	6.20	---	---
Camas Creek (Lake County)	5825	From 10/25 To 1/3	2.15	2.90	---
County Line (Umatilla County--Starkey Hdqs.)	4800	From 12/1 To 12/30	0.00	2.90	---
Fish Lake (Jackson County)	4865	From To 12/28	0.00	4.20	---
Marks Creek (Crook-Wheeler Cos.)	4540	From 11/30 To 12/28	0.20	---	---
Mud Ridge (Clackamas County)	3800	From To 12/28	7.92	31.62	---
Quartz Mt. Summit (Lake County)	6300	From 12/1- To 12/27	.25	3.00	---
Silver Creek (Lake County)	4900	From 10/15 To 12/28	.46	15.95	---
<p>(a) Estimated. (b) 1958-72 adjusted average. (c) 1958-72, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.</p>					

[illegible]

The Following Organizations Cooperate in the Oregon Snow Survey Work

STATE

- Idaho Cooperative Snow Surveys
- Nevada Cooperative Snow Surveys
- Oregon State University
- Oregon Department Of Water Resources
- Soil and Water Conservation Districts of Oregon

COUNTY

- Douglas County Water Resources Survey

FEDERAL

- Department of Agriculture
 - Cooperative Extension Service
 - Forest Service
 - Soil Conservation Service
- Department of Commerce
 - NOAA, National Weather Service
- Department of the Interior
 - Bonneville Power Administration
 - Bureau of Land Management
 - Bureau of Reclamation
 - Fish and Wildlife Service
 - Geological Survey
- Department of National Defense
 - Corps of Army Engineers

PUBLIC UTILITIES

- Pacific Power and Light Company
- Portland General Electric Company
- California-Pacific Utilities Company

MUNICIPALITIES

- City of Baker
- City of La Grande
- City of The Dalles
- City of Walla Walla

IRRIGATION DISTRICTS

- Arnold Irrigation District
- Associated Ditch Companies
- Burnt River Irrigation District
- Central Oregon Irrigation District
- East Fork Irrigation District
- Grants Pass Irrigation District
- Hood River Irrigation District
- Jordan Valley Irrigation District
- Juniper Flat Irrigation District
- Lakeview Water Users, Incorporated
- Medford Irrigation District
- Middle Fork Irrigation District
- North Board of Control - Owyhee Project
- North Unit Irrigation District
- Ochoco Irrigation District
- Rogue River Valley Irrigation District
- South Board of Control - Owyhee Project
- Squaw Creek Irrigation District
- Talent Irrigation District
- Tumalo Project
- Vale - Oregon Irrigation District
- Warm Springs Irrigation District

PRIVATE ORGANIZATIONS

- The Crag Rats, Hood River, Oregon

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with the Snow Survey"*

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